IV. FINDINGS OF FACT

7. Respondent is the current owner of the Delfasco site. Respondent operated the Delfasco Forge Division at this location from approximately 1981 to 1997. Respondent currently leases the site to an automotive repair business.

8. In April 1991, Delfasco Forge submitted a notification of hazardous waste activity indicating that it generated between 100 and 1,000 kilograms per calendar month of waste which exhibits the hazardous characteristic of ignitability (waste code D001).

9. During the time that it operated at the site, Delfasco Forge performed steel and iron forging, metal fabrication, and machining operations.

10. As part of its manufacturing process, Delfasco Forge used trichloroethylene (TCE) as a degreaser on its metal products.

11. In 2002 Delfasco began investigating potential soil and groundwater contamination associated with the site under the Texas Commission on Environmental Quality's (TCEQ's) Texas Risk Reduction Program and Voluntary Cleanup Program.

12. Soil boring data collected from the site in 2003, 2004, and 2005 indicate that a disposal and/or release of TCE occurred at the site.

13. Groundwater data collected in 2004 and 2005 in the vicinity of the site indicate that there has been a disposal and/or release of TCE to the groundwater. Concentrations of TCE in the groundwater plume are above the residential protective concentration limit (PCL) set by the TCEQ of 0.005 ug/L.

14. The TCE groundwater plume extends under approximately 65 acres of a residential neighborhood located directly adjacent to and northeast of the site, bounded by NE 28th Street to the west, Bowles Street to the north, Hensley Drive to the east, and E Main Street to the south.

15. In May 2008, EPA conducted air sampling of 16 residences and two commercial buildings within the residential area identified in Paragraph 14. The sampling event consisted of collecting and analyzing sub-slab air samples (if the home had a concrete slab foundation), collecting and analyzing crawl-space air samples (if the home had a pier and beam foundation), and collecting and analyzing indoor air samples from fifteen (15) selected homes.

16. The field results obtained from the May 2008 sampling event indicate that TCE vapors from the groundwater are migrating through the soil and into the homes located above the plume.

17. As shown in the table below, the concentrations of TCE in the crawl-space, sub-slab, and/or indoor air of ten of the homes sampled using a Trace Atmospheric Gas Analyzer (TAGA) and Summa canisters exceed EPA's screening level for TCE. The screening level is based on a 10^{-6} increased cancer risk for 350 days/year exposure for 30 years. (See Attachment A for Exact Addresses)1

Unit Number	TAGA Crawlspace (ug/m^3)	Summa Crawlspace 1 (ug/m^3)	Summa Crawlspace 2 (ug/m^3)	TAGA Indoor Air (ug/m^3)	Summa Indoor Air (ug/m^3)	Crawlspace/ Indoor Air Screening Value (ug/m^3)
Unit 3	166	130	180	134	65	1.2
Unit 6	5	3.7	n/a	3	n/a	1.2
Unit 7	0.7	1.3	n/a	0	n/a	1.2
Unit 8	29	23	42	13	7.4	1.2
Unit 9	29	21	23	3	0.61	1.2
Unit 11	2	1.7	n/a	0	n/a	1.2
Unit 12	13	30	n/a	3	n/a	1.2
Unit 13	11	9.4	2.8	3	2.4	1.2
Unit 16	70	72	74	64	22	1.2
Unit 18	107	65	n/a	n/a	n/a	1.2

18. TCE, under certain conditions of dose, duration, or extent of exposure, could constitute a threat to human health by inhalation and/or absorption. The following information was compiled from "Chemical, Physical, and Biological Properties of Compounds Present at Hazardous Waste Sites", prepared by Clement Associates, Inc., dated September 27, 1985, EPA's Integrated Risk Information System (IRIS), Clinical Toxicology of Commercial Products, Fifth Edition, and 40 C.F.R. Part 141:

> **Trichloroethene**: Trichloroethylene (TCE) has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. TCE has induced hepatocellular carcinomas in mice and was mutagenic when tested using several microbial assay systems.

1 Attachment A has been retained by EPA as confidential information. Attachment A wil be released to Respondent within 24 hours of obtaining permission from all owners of the "Affected Homes".

Some harmful effects may persist following long-term exposure to TCE. This information is based largely on animal studies. These studies show that ingesting or breathing levels of TCE that are higher than typical background levels can produce nervous system changes and liver and kidney damage. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed at lower levels over long periods of time. The maximum contaminant level (MCL) for TCE in drinking water is 0.005 mg/l. An IRIS carcinogen assessment summary for TCE is currently not available; therefore, EPA Region 6 uses the California Environmental Protection Agency Inhalation Unit Risk value of 2E-06 $(ug/m^3)^{-1}$. Under the Safe Drinking Water Act (SDWA), EPA has classified TCE as a Group B2 (probable human) carcinogen.

19. EPA Region 6 has developed the following remediation prioritization scheme for TCE:

Crawl Space/Indoor Air Concentration (ug/m3)	**Priority**
>10	First
5 – 10	High
1.2 – 5	Site-Specific
<1.2	Low

20. The TCE concentrations in the homes identified in Paragraph 17 constitute an imminent and substantial endangerment to human health and/or the environment. Consequently, corrective action must be taken immediately to prevent continued exposure to elevated levels of TCE in the homes. Additionally, the remaining homes within the bounded area must be sampled for indoor air and corrective action taken at those additional homes that are found to have elevated indoor air TCE concentrations.

VII. WORK TO BE PERFORMED

24. Respondent shall notify EPA in writing within three (3) days of the Effective Date of this UAO of the name, address, phone number, electronic mail address, and qualifications of its Project Manager. The EPA Project Manager will be:

Richard Ehrhart (6PD-C)
U.S. EPA Region 6
RCRA Program Branch
1445 Ross Avenue
Dallas, Texas 75202
214-665-6765
Ehrhart.richard@epa.gov

The EPA Enforcement Officer will be:

Melissa Smith (6EN-HC)
U.S. EPA Region 6
Hazardous Waste Enforcement Branch
1445 Ross Avenue
Dallas, Texas 75202
214-665-7357
Smith.melissa@epa.gov

Each Project Manager shall be responsible for overseeing the implementation of this UAO. EPA and Respondent have the right to change their respective Project Managers. The other party must be notified in writing at least 10 days prior to the change.

25. Respondent shall ensure that its Project Manager (original or replacement) has the ability and qualifications to effectively perform this role. All persons under the direction and supervision of Respondent's Project Manager must possess all necessary professional licenses required by federal and State law.

26. The EPA Project Manager shall be EPA's designated representative for the Site. Unless otherwise provided in this UAO, all reports, correspondence, notices, or other submittals relating to or required under this UAO shall be in writing and shall be sent to the EPA Project Manager and Enforcement Officer at the addresses specified in Paragraph 24, unless notice is given in writing to Respondent of a change in address. Reports, correspondence, notices or other submittals shall be delivered by U.S. Postal Service, private courier service or electronic mail. All correspondence shall include a reference to

the case caption EPA Docket No. RCRA-06-2008-0907.

27. Respondent shall undertake and complete all of the Work to the satisfaction of EPA, pursuant to RCRA § 7003, 42 U.S.C. § 6973. All of the Work performed under this UAO shall be under the direction and supervision of Respondent's Project Manager and shall be in accordance with the terms of this UAO. Within 10 days of the Effective Date of this UAO, Respondent shall notify EPA in writing of the names, titles and qualifications of the personnel, including agents, contractors, subcontractors, consultants and laboratories, to be used in carrying out the Work.

28. Respondent's obligation to perform the Work will begin on the Effective Date of this UAO.

29. The Work undertaken pursuant to this UAO shall be conducted in compliance with all applicable EPA guidances, policies and procedures, and with this UAO.

30. Within 7 days of the Effective Date of this UAO, Respondent shall submit a Work Plan for installation of mitigation systems in the Affected Homes identified in Paragraph 17 according to the prioritization scheme in Paragraph 19. The Work Plan shall include:

a) A plan for obtaining access agreements from the homeowners;
b) A detailed description of the mitigation system to be installed specific to each home's foundation type;
c) A detailed description of the installation process for each system;
d) A description of maintenance requirements for the mitigation system(s);
e) An estimate of the annual operating cost for the mitigation system(s).

31. The Work Plan shall include a schedule of the Work to be performed. The Work Plan shall be submitted to EPA for approval. Following EPA's approval or modification of the Work Plan pursuant to Paragraph 39, Respondent shall immediately implement the Work Plan in accordance with the schedule and provisions approved by EPA to install mitigation systems in the known affected homes.

32. Within 30 days of the Effective Date of this UAO, Respondent shall submit a Sampling Plan for delineating Affected Homes in the Residential Area. Sampling of the homes shall include sub-slab or crawl-space samples collected concurrently with indoor air samples. The Sampling Plan shall include:

a) A plan for identifying homes to be sampled and determining the homes' foundation type;

b) A plan for obtaining access agreements from the homeowners; and
c) A detailed description of the sampling and analytical procedures to be used for sub-slab, crawl-space, and indoor air, including a process for clearing homes of other potential sources prior to sampling.

33. The Sampling Plan shall include a schedule of the Work to be performed. The Sampling Plan shall be submitted to EPA for approval. Following EPA's approval or modification of the Sampling Plan pursuant to Paragraph 39, Respondent shall implement the Sampling Plan in accordance with the schedule and provisions approved by EPA.

34. Within 7 days of receipt of sample results, Respondent shall provide a copy of those results to EPA. Data shall be validated by Respondent within 30 days of receipt of the data, and EPA shall be notified of the results of the validation within 7 days.

35. Within 30 days of receipt of the sample results, Respondent shall provide to EPA a Work Plan (using the same guidelines as identified in Paragraph 30), along with a schedule for installation, for mitigation systems to be installed in additional Affected Homes. Following EPA's approval or modification of the Work Plan and schedule pursuant to Paragraph 39, Respondent shall implement the Work Plan in accordance with the schedule and provisions approved by EPA.

36. Respondent shall ensure that the mitigation systems are maintained and operating properly until the TCE concentration in groundwater is shown to be at or below levels which pose a threat to human health.

37. Respondent shall conduct a complete groundwater/soil investigation and remediation, subject to EPA approval.